REMARKS

Introductory Comments

All claim cancellations and withdrawals, and amendments to the claims, are so made without prejudice or disclaimer to the right to pursue non-elected, deleted, omitted, or cancelled subject matter in one or more continuation or divisional applications.

Unless otherwise indicated, all references to paragraphs, lines, Figures, Examples, etc. refer to those portions of publication No. US 20060122106, which is the publication of the subject application.

Status of the Claims

By virtue of the Listing of Claims presented herein, claims 1-3, 5-12, and 14-32 are pending.

Claims 7 and 15-21 were withdrawn previously, being directed to non-elected subject matter.

Claims 4 and 13, and 31 were canceled previously.

Claims 22 and 24 are hereby canceled.

Claims 1-3, 5, 6, 8-12, 14, and 23, 25-30, and 32 are under consideration.

Claim 1 has been herein amended as follows: to omit the term, "preventing"; to omit the recitation "PYY or"; and to recite that the PYY agonist is selected from the group consisting of: amino acids 16-36 of the amino acid sequence set out in SEQ ID NO:2; amino acids 11-36 of the amino acid sequence set out in SEQ ID NO:2; amino acids 6-36 of the amino acid sequence set out in SEQ ID NO:2; a peptide in which about 5 amino acids have been deleted from the N-terminus of amino acid as set out in SEQ ID NO:2; a peptide in which about 10 amino acids have been deleted from the N-terminus of amino acid as set out in SEQ ID NO:2; and a peptide in which about 15 amino acids have been deleted from the N-terminus of amino acid as set out in SEQ ID NO:2; and PYY[3-36]. Basis for the amendments may be found throughout the specification and, for example, at Example 1 (e.g., paragraphs [0050] through [0063]) and paragraph [0063].

Claims 6, and 10-12 have been amended to omit the phrase "the PYY or" to enhance

clarity. Basis for the amendments may be found throughout the specification and, for example, at Example 1 (e.g., paragraphs [0050] through [0063]) and paragraph [0063].

Claims 23 and 25-29 have been amended to recite the phrase "PYY agonist". Basis for the amendments may be found throughout the specification and, for example, at Example 1 (e.g., paragraphs [0050] through [0063]) and paragraph [0063].

No new matter has been introduced by virtue of the amendments to the claims as reflected above.

Claim Rejections

Applicants have carefully considered the points raised in the outstanding Office Action and believe that the Examiner's concerns have been addressed as described herein, thereby placing this case into condition for allowance.

Rejection under 35 U.S.C. § 112, first paragraph: New matter

i. Claims 22 and 24 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner asserts that the recitation in Claim 22, "wherein said active fragment comprises amino acids 22-36 of the amino acid sequence set out in SEQ ID NO: 2", and the recitation in Claim 24, "wherein said active fragment comprises amino acids 13-36 of the amino acid sequence set out in SEQ ID NO: 2", each introduce new matter.

Applicants disagree, for the reasons provided in Applicants' responses filed on June 10, 2009, and on December 2, 2009, at least. Nonetheless, in order to advance prosecution in this case, Applicants have canceled claims 22 and 24 as indicated above, thereby rendering moot the rejection.

ii. Claims 1-3, 5, 6, 8-12, 30, and 32 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the

time the application was filed, had possession of the claimed invention. Specifically, the Examiner asserts that the removal of the recitation "wherein said active fragment comprises amino acids 22-26 of the amino sequence set out in SEQ ID NO:2" introduces new matter.

Without acquiescing to the Examiner's assertions, Applicant notes that Applicant has amended Claim 1 such that, for example, it now recites a Markush group of PYY agonist species, and no longer recites "a peptide that comprises an active fragment of PYY". Applicant submits that the amendments to Claim 1 render the rejection moot.

Rejection under 35 U.S.C. § 112, first paragraph: Enablement

i. Claims 1-3, 5, 6, 8-12, 14, 22-30, and 32 have been rejected under 35 U.S.C. § 112, first paragraph, as being allegedly not enabled "because the specification, while being enabling for a method of treating, ameliorating, or protecting from an intestinal damage, comprising peripherally administering a pharmaceutically active formulation of PYY or PYY(3-36) to a human to treat or alleviate the intestinal damage, does not reasonably provide enablement for the claimed invention commensurate in scope with the claims." Specifically, the examiner asserts that "the specification does not provide guidance and working examples with respect to *preventing* an intestinal damage by administering PYY or a PYY agonist." (italics in original.)

Applicant disagrees, at least for the reasons provided in Applicant's response dated December 2, 2009. Without acquiescing to the Examiner's assertions, Applicant has deleted the term "preventing" from Claim 1, thus rendering moot the rejection.

Rejection under 35 U.S.C. § 102(b)

Claims 1, 2, 5, and 10-12 and 22-30 and 32 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Balasubramaniam (U.S. Patent No. 5, 604, 203), hereinafter '203. Specifically, the Examiner echoes previous assertions that "Louis et al do not teach, by any means, that Crohn's diseases do not comprise ulceration."

First, Applicant notes that Applicant did not characterize Louis et al. in such a matter; i.e., that the reference teaches that Crohn's diseases do not comprise ulceration. Applicant did explain that Louis et al. teaches that not all instances of Crohn's disease "necessarily" – i.e., must - comprise ulceration, as the Examiner has contended. This lack of absolute certainty that

all Crohn's disease "necessarily" include ulceration is fully supported by the reference for the reasons put forward in Applicant's response dated December 2, 2009 (see, e.g., Response dated December 2, 2009, page 9, second paragraph, through page 10, first paragraph). This point is further evidenced in the Examiner's cited Murch et al. reference in support of the rejection of claim 3, discussed below, insofar as Murch et al. teaches that "Patients with inflammatory bowel disease exhibit high cellular turnover in the gut, *often* leading to ulceration or fistulas (see Murch et al., column 8, lines 4-6; italics added)." Thus, as explained previously and as taught in Louis et al., the '203 reference does not anticipate Applicant's claims on this basis alone.

Nonetheless, as provided above, Applicant has amended the claims such that they recite a Markush group of PYY agonist species. Such species are not disclosed in the '203 reference.

Accordingly, the claim are not anticipated by the '203 reference. The rejection should be withdrawn.

Rejections under 35 U.S.C. § 103(a)

Claim 14

The Examiner has again rejected claim 14 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Balasubramaniam (U.S. Patent No. 5, 604, 203), hereinafter '203, as applied to claims 1, 2, 5, and 10-12 and 22-32 above, and further in view of Dumont et al. 26:320-324 (1994). Specifically, the Examiner asserts that whereas '203 allegedly teaches a method of treating intestinal damage comprising administering a pharmaceutically active formulation of PYY or a PYY agonist to a human as applied to claims 1, 2, 5, and 10-12 above, '203 fails to teach the method of claim 14, comprising administering PYY[3-36]. The Examiner applies Dumont et al. in an attempt to cure the deficiencies of '203, arguing that "Dumont et al. teach a PYY agonist, PYY [3-36] that binds receptors (see Abstract)". Applicant respectfully traverses.

Notwithstanding the comments Applicant provided to this rejection in Applicant's previous response, which Applicant thereby incorporates by reference in its entirety, Applicant submits that Dumont fail to teach or suggest an ability of a PYY or PYY agonist to treat, ameliorate, prevent, or protect from a morphological damage comprising an ulceration upon peripheral administration to a subject. Dumont fails to teach or suggest that ulceration is "necessarily" a morphological damage that accompanies any intestinal bowel disorder.

Furthermore, that Dumont et al. provides no teaching or suggestion as to which "PYY receptor" - or which "PYY receptors" - are required to be activated by PYY[3-36] agonist in order to elicit any activity recited in Applicant's claims. Dumont et al. merely alleges that PYY[3-36] are agonists for Y1 and Y2 receptors, and not for the Y3 receptor class (see Abstract). There is no teaching or suggestion in Dumont et al. that Y2 or Y1 receptor agonism by PYY[3-36] is required for any activity recited in Applicant's claims. Indeed, Dumont fails to rule out the possibility that Y2 and/of Y1 receptor agonism by PYY[3-36} might inhibit the activities recited in Applicant's claims. Furthermore, Dumont also does not teach or suggest that Y3 receptor agonism by PYY[3-36] is *not* required for such activities . Still further, as taught in Applicant's disclose at, e.g., paragraphs [0043] and [0082], there exist at least seven Y receptor subtypes. Dumont is silent with regard to any potential agonism, or antagonism, of any of the Y4, Y5, Y6, or Y7 receptors by PYY[3-36], or any impact on such agonism or antagonism on any activity as recited in Applicant's claims. Thus, at least because Dumont fails to teach or suggest which one, or which ones, of the seven Y receptor subtypes must be agonized, or antagonized by PYY[3-36] in order to elicit any activity recited in Applicant's claims, there is no motivation to combine the alleged teachings of Dumont et al. – that PYY[3-36] allegedly agonizes Y1 and Y2 receptor subtypes – with the alleged teachings of '203 in order to arrive at Applicant's claimed methods. Finally, it is known in the art that, for instance neuropeptide Y (NPY) also binds to, Y1 and Y2 receptors, as does pancreatic polypeptide (PP). Accordingly, Dumont et al. fails to provide any motivation to select PYY[3-36] as opposed to any other agonist, or antagonist, of any of the seven Y receptor subtypes, in order to arrive at Applicant's claims.

Accordingly, the 103(a) rejection is traversed and/or moot and should be withdrawn.

Claim 3

The Examiner has rejected claim 3 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Balasubramaniam (U.S. Patent No. 5, 604, 203), hereinafter '203, as applied to claims 1, 2, 5, and 10-12 and 22-32 above, and further in view of Murch et al. (U.S. Patent No. 6,046,179, Apr. 4, 2000). Specifically, the Examiner asserts that whereas '203 allegedly teaches a method of treating intestinal damage comprising administering a pharmaceutically

active formulation of PYY or a PYY agonist to a human as applied to claims 1, 2, 5, and 10-12 above, '203 fails to teach "the intestinal damage associated with ulcerative colities [sic]." The Examiner continues, asserting that "Balasubramaniam teaches that PYY can be used to treat inflammatory diarrhea, which includes Crohn's disease irritable bowel syndrome (first paragraph of column 7),whereas symptoms of ulcerative colities [sic] and Crohn's disease are similar and are often hard to differentiate as taught by Murch et al. (column 7, last paragraph to top of column 8)". From this, the Examiner concludes that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the method of Balasubraminiam to treat ulcerative colitis [sic] (a form of inflammatory bowel) with a reasonable expectation of success."

Applicant disagrees. The Examiner's stated reasons for applying Murch et al. highlight the logical flaw in the rejection insofar as "similar symptoms" that one condition may coincidentally have with another condition cannot – and would - not be interpreted by one of ordinary skill (i.e., a physician) that a treatment regimen that might be appropriate for one such condition would be appropriate for the second condition. To illustrate, one can consider, certain symptoms of indigestion or reflux disease, such as heartburn, nausea, sweating, and stomach discomfort, which are understood in the art to often be interpreted, erroneously, as symptoms of cardiac arrest. Clearly, the fact that such symptoms are often mis-associated, and thus "hard to differentiate" between an indication of indigestion and in indication of cardiac arrest, does not suggest that an appropriate treatment regimen for indigestion would "obviously" be appropriate for treating cardiac arrest, or vice versa. Thus the logical basis for the application of Murch et al. to the primary reference, as indicated by the Examiner's stated basis for such application, alone highlights the fallaciousness of the rejection.

Additionally, as mentioned above, the primary reference (" ' 203") fails to disclose any of the PYY agonists recited in the claims as amended above, and fails to disclose a treatment of, amelioration of, or protection from ulceration associated with an inflammatory bowel disease. Indeed, Murch et al. substantiates this point, insofar as Murch et al. teaches that "Patients with inflammatory bowel disease exhibit high cellular turnover in the gut, *often* leading to ulceration or fistulas (see Murch et al., column 8, lines 4-6; italics added)." Thus, as taught in Murch et al., as well as in Louis et al., inflammatory bowel disease does not "necessarily" comprise ulceration

as contended by the Examiner. Furthermore, Murch et al. fails to cure any of the other deficiencies on the '203 reference, such as any disclosure of the PYY agonist species recited in Applicant's claims, or any other PYY peptide for that matter, or any utility of such agonists in the treatment of any irritable bowel disorder, much less ulcerative colitis.

For the reasons set forth above, at least, the combination of the alleged teachings of the two references fails to result in Applicant's claims. There is no motivation to combine such references with any reasonable expectation of success in arriving at Applicant's claims. The rejection should be withdrawn.

Conclusion

In conclusion, all rejections and objections outlined in the outstanding Office Action are in error and should be withdrawn.

Applicants believe that all issues raised in the Office Action have been properly addressed in this response and in the amendments to the claims as shown in the attached Listing of Claims. Accordingly, reconsideration and allowance of the amended claims is respectfully requested. If the Examiner feels that a telephone interview would serve to facilitate resolution of any outstanding issues, the examiner is encouraged to contact Applicants' representative at the telephone number below.

No additional fees are believed due for this submission. However, if a fee is due, the Commissioner is hereby authorized to charge payment of any fees associated with this communication, to Applicant's Deposit Account No. 010535 referencing Docket No. 0402US-UTL. Additionally, the Commissioner is hereby authorized to charge payment or credit overpayment of any fees during the pendency of this application to Applicant's Deposit Account No. 010535.

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Respectfully submitted,

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